

CLAIMS:

1. A method of cooling at least one electronic device, wherein a movable pumping element (4) pumps a fluid to and/or from said electronic device, and wherein the movement of said pumping element (4) is induced by heat.
- 5 2. A method as claimed in claim 1, wherein said heat at least comprises heat which is produced by said electronic device.
3. A method as claimed in claim 1 or 2, wherein said heat is produced by at least one heater (8).
- 10 4. A method as claimed in any one of the preceding claims, wherein the movement of said pumping element (4) is a pulsating and/or a vibrating movement.
5. A method as claimed in any one of the preceding claims, wherein fluid is
15 compressed by the movement of said pumping element (4), wherein the compressed fluid is cooled, and wherein the cooled fluid is transported to said at least one device.
6. A method as claimed in any one of the preceding claims, wherein said
20 pumping element circulates said fluid between said at least one device (1) and fluid cooling means (5).
7. A method as claimed in any one of the preceding claims, wherein said fluid comprises air.
- 25 8. A method as claimed in any one of the preceding claims, wherein said pumping element comprises a diaphragm (4).
9. A method as claimed in claims 5 and 8, wherein said fluid is supplied to a fluid compression chamber (13), wherein a first side of said diaphragm abuts said

compression chamber (13), and wherein heat is supplied to a second side of said diaphragm (4) for moving the diaphragm into the compression chamber (13).

10. A method as claimed in any one of the preceding claims, wherein said
5 pumping element (4) is expanded from a first position to a second position by said heat, and wherein the expansion of said pumping element leads to pumping of said fluid.

11. A method as claimed in claim 10, wherein said heat is removed from the
10 pumping element (4) after said expansion, such that the pumping element (4) contracts to said first position.

12. A system for cooling at least one electronic device, comprising at least one
movable pumping element (4) for transporting a fluid to and/or from said device, wherein
said pumping element (4) is movable by heat.

15 13. A system as claimed in claim 12, wherein said pumping element comprises a
diaphragm (4), for example, an expandable and contractable diaphragm (4) which is movable
between at least a first position and a second position.

20 14. A system as claimed in claim 12 or 13, comprising cooling means (5) for
cooling said fluid.

15. A system as claimed in claim 14, wherein said cooling means comprise
expansion means for expanding compressed fluid, for example, an expansion valve (15).
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16. A system as claimed in claim 14 or 15, wherein said cooling means comprise a
heat exchanger, particularly a cooling rib (5), for transporting heat from the fluid to the
environment.

30 17. A system as claimed in any one of claims 12 to 16, comprising a compression
chamber (13) for compressing fluid, wherein a first side of said pumping element (4) abuts
said compression chamber (13).

18. A system as claimed in claim 17, comprising a fluid supply (2, 23) for supplying fluid from said compression chamber (13) to said electronic device (1).
19. A system as claimed in any one of claims 12 to 18, comprising a heat collector (2; 102) for collecting heat from said device.
20. A system as claimed in claim 19, wherein said heat collector comprises a heat pipe (102) which is connected or connectable to said pumping element (4) for supplying heat to the pumping element (4).
21. A system as claimed in claim 19, wherein said heat collector comprises a fluid which is at least contained in a heat collection chamber (2).
22. A system as claimed in any one of claims 12 to 21, comprising a pumping chamber (3) for pumping fluid from said device, wherein a second side of said pumping element (4) abuts said pumping chamber (3).
23. A system as claimed in claims 21 and 22, wherein said pumping chamber (3) is fluid-connectable to said heat collection chamber (2).
24. A system as claimed in at least claims 17 and 22, wherein said pumping chamber (3) is fluid-connectable to said compression chamber (13), for example, by means of a fluid connection (22) which comprises a one-way valve (11, 17).
25. A system as claimed in any one of claims 12 to 24, comprising at least one heater (8) for providing at least a part of the heat for moving said pumping element (4).
26. A system as claimed in claims 22 and 25, wherein said heater (8) is at least arranged to heat the content of said pumping chamber (3).
27. A system as claimed in any one of claims 12 to 26, comprising valve means (15, 17, 7, 11) which are arranged to control the transport of said fluid.

28. A system as claimed in claim 27, wherein at least a part of said valve means is arranged to cooperate with said pumping element (4) for controlling the transport of said fluid, and wherein, for example, said cooperation is mechanical, electric, electronic or the like.

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29. A system as claimed in any one of claims 12 to 28, wherein at least a part of the system is arranged to be mounted on or near an electronic device for cooling said device.

30. A system as claimed in any one of claims 12 to 29, wherein the pumping element (4) is arranged to carry out a pumping movement under the influence of a heat-induced pressure rise.

31. A system as claimed in any one of claims 12 to 30, wherein the pumping element is arranged to carry out a pumping movement when the temperature of the pumping element changes.

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32. An electronic device provided with and/or coupled to a system as claimed in any one of claims 12 to 31, wherein the electronic device is particularly part of a computing means, a computer, a server and/or the like.

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33. An apparatus provided with a system as claimed in any one of claims 12 to 31.